

Office Action Summary	Application No.	Applicant(s)	
	10/598,399	NILSSON ET AL.	
	Examiner	Art Unit	
	THIEN T. MAI	2887	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 August 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-21 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 August 2006 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>3/11/2010</u> . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/28/2006</u> . | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Acknowledgement

1. Acknowledgement is hereby made of the claim amendment filed 3/11/2010 in which claims 1-21 are preliminarily amended for prosecution.
2. Acknowledgement is hereby made of the amended specification which has been entered.
3. Acknowledgement is hereby made of replacement abstract which has been entered.

Drawings

4. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claim 1 line 5: the recitation of "the function" lacks antecedent basis. For examination purposes, it is interpreted as if "a function" is intended.
6. Claim 9: there are two instances of "a central unit" being claimed. Thus it is unclear whether they are referring to a single entity or different ones. For examination purposes, it is interpreted as any device that functions as a central control unit different than the claimed handheld device.

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7. Claim 16 line 5: for clarity and grammatical purposes, please replace "and that" with "; and".
8. Claim 16 line 6: please replace "to compare" with "compare".
9. Claim 16 lines 7-8: for clarity purposes, please consider replacing "with a command" with "along with a command" or similar.
10. Clarifications to the above objections are respectfully requested.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1, 3-10, 13-15, 18, 20-21 are rejected under 35 U.S.C. 102(b) as being anticipated by *Gelbman* (US 20020167500 A1).

Re claim 1, *Gelbman* discloses a handheld device (interpreted as activator module 18; paragraphs 45, 53, 86, 102: activator module 18 can be in the form of a pocket-sized, handheld, portable device) for use with an electronic labelling system 10 for communicating with at least one label used in the electronic labelling system, said handheld device comprising

transmission means 38 for transmitting a command to at least one shelf label (as label 16) in the electronic labelling system memory means 28 (Figs. 2-3, 8A, 8B, 9, paragraphs 46, 47, 51, 71, 87, 94: memory means 28 of label 16, once receiving a command signal 20 from the transmission means 38 of device 18, stores new information such as instructions, sales price), control means (processor 34) to control the function of the handheld device (Fig. 3, paragraphs 46, 47, 51, 53: processor 34 is configured to control a signal receiving function of receiver 36 and a transmitting function of transmitter 38), and

at least one button for providing user input (paragraphs 45, 53, 86, 102: activator module 18 can be formed as part of phone, keyboard, keypad, PDA, Palm Pilot having at least a button for receiving a user input),

said handheld device 18 also comprising a receiver controllable by the control means and arranged to receive information from a central unit in the electronic labelling system (Figs. 3, 6, paragraphs 45, 53: device 18 includes a receiver 36 configured to receive information from a wired or radio-based central control unit 70, 72, 74).

Re claim 3, a handheld device according to claim 1, comprising unique identity information stored in the memory means and transmission means for communicating said unique identity information to the system (paragraphs 46, 107: label identification data stored the device 18 is transmitted to the label in the labeling system).

Re claim 4, a handheld device according to claim 1, arranged for wireless communication such as IR communication or RF communication (Fig. 2-3, paragraph 46: label 16 includes an antenna 22 for radio wireless communication with handheld device 18; Fig. 6, paragraph 45, 53: device 18 communicates via radio frequency with computer 70).

Re claim 5, a handheld device according to claim 1, comprising essentially the same type of control circuit and/or receiver as the electronic labels used in the electronic labelling system (Figs. 2, 3, 5, paragraphs 51, 71: device 18 has control circuit 34 and receiver 36 or combined to form a transceiver, which is essentially the same as label 16 comprises control circuit 24 and receiver; here, both control circuits 34 and 24 are processors therefore are of the same type).

Re claim 6, a handheld device according to claim 1, arranged to transmit to the label a command to display a certain piece of information comprised in a register in the label

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(paragraphs 46-47: device transmit command to storage 28 of the label 16 with information including price and product code for storage in a location as a register of the memory);.

Re claim 7, a handheld device according to claim 1, arranged to transmit to the label a command to change information comprised in a register in the label (abstract, paragraphs 46-47, 51, 66, 74, 77, 86: device 18 is configured to transmit an update command to alter information in the label).

Re claim 8, a handheld device including a display for displaying information to a holder of the handheld display (paragraphs 45, 53, 86, 102: activator module 18 can be part of phone, PDA, Palm Pilot inherently well known to have a display for at least displaying a status information).

Re claim 9, an electronic shelf label system comprising at least a first base station unit (i.e. common transceiver unit 510 in Fig. 9) communicating with a central unit (i.e. unit 540, 70, 72, 74), and with a number of electronic shelf labels 16 through wireless connections (paragraphs 91-92: unit 510 coupled to antenna strips 480 that is connected with the labels 16 wirelessly through inductive or capacitive coupling within a specified distance of the label; note that paragraph 86 discusses the handheld communicates wirelessly with the label through capacitive or inductive coupling) for determining at least a first piece of information to be displayed on the labels (paragraphs 91-94: central unit 540 provides information to be displayed on the labels through base unit 510 and antenna strip 480),

 said system also comprising handheld devices (i.e. activator 18) for communicating with the shelf labels,

 said electronic shelf label system comprising a central unit (i.e. unit 540, 70, 72, 74) and communication means (i.e. wired or wireless network including WAN or LAN; see i.e. Fig. 7, paragraph 92) connected to the central unit, the communication means being arranged to

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transmit a message to at least one handheld device (*Gelbman*, Fig. 7, 9, paragraphs 46, 51, 53, 47, 86, 87: the central unit is in communication with the handheld device via the communication means to form a control system and transmit an instruction to handheld device 18 to send an update message to the label).

Re claim 10, an electronic shelf label system according to claim 9, which is arranged to receive in the central unit information transmitted from said at least one handheld device 18 and process said information in the central unit (*Gelbman*, paragraphs 53, 86: handheld device 18 communicates back to central unit via the communication means for processing).

Re claim 13, an electronic shelf label system according to claim 10, wherein the handheld device and the electronic shelf labelling system are arranged for wireless communication such as IR communication or RF communication (Fig. 2-3, 5, 6, paragraphs 45-46, 55, 70, 86, 92: handheld device 18 and labels communicate wirelessly through antennas, central unit 540, 70, 72, 74 also communicates wirelessly with the labels and/or handheld device 18).

Re claim 14, an electronic shelf label system according to claim 10, wherein the handheld device comprises essentially the same type of control circuit and/or receiver as the shelf labels used in the electronic labelling system (*Gelbman*, Figs. 2, 3, 5, paragraphs 33, 48: device 18 has control circuit 34 and receiver 36 or combined to form a transceiver, which is essentially the same as label 16 comprises control circuit 24 and receiver; here, both control circuits 34 and 24 are processors therefore are of the same type).

Re claim 15, *Gelbman* discloses an electronic shelf label system according to claim 10, comprising a master authorization code that can be enabled in the system to give access to all information comprised on the electronic shelf labels (*Gelbman*, paragraphs 46, 47, 99, 122, 107, 124, 127, 134, 137: each of the labels receives at least a master encryption key or master

security code from the handheld device as a master device for use in authentication of commands for accessing all information on the labels).

Re claim 18, a method for use in an electronic shelf label system, said system comprising a central unit (i.e. units 70, 72, 74) and communication means (i.e. wired or wireless network including WAN or LAN; see i.e. Fig. 7, paragraph 92) for communication with at least one electronic label in the system, and at least one handheld device arranged to communicate with said label, said method comprising the steps of

- transmitting from the central unit a first message to the at least one handheld device (*Gelbman*, paragraph 53);
- receiving said first message in the handheld device (Fig. 3, paragraphs 46, 51, 53, 47, 87: the device 18 is part of a distributed processing and control system including wireless-based external devices 70, 72, 74 to provide instructions software programs for use by the label).

Re claim 20, a method according to claim 18, wherein the handheld device and the electronic shelf label system communicate by wireless communication such as IR or RF communication (Fig. 2-3, paragraph 46: label 16 includes an antenna 22 for radio wireless communication with handheld device 18; Fig. 6, paragraph 45, 53: device 18 communicates via radio frequency with computer 70).

Re claim 21, a method according to claim 18, wherein the handheld device and the at least one electronic shelf label comprise essentially the same type of control unit and/or receiver (Figs. 2, 3, 5, paragraphs 33, 48: device 18 has control circuit 34 and receiver 36 or combined to form a transceiver, which is essentially the same as label 16 comprises control circuit 24 and receiver; here, both control circuits 34 and 24 are processors therefore are of the same type).

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 2, 11, 16-17, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Gelbman* (US 20020167500 A1) in view of *Goodwin, III* (US 20020139847 A1). *Gelbman's* teachings have been discussed above.

Re claim 2, *Gelbman* does not disclose the handheld device 18 according to claim 1, wherein the transmission means is arranged to transmit an authorization code to the label in order to verify the authorization to transmit said command.

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Goodwin, III discloses a handheld device 34 that includes a keypad 68 for entering a password as an authorization code for transmission by transmission means 62 to shelf label 22 (*Goodwin, III*, paragraphs 26, 27, 37, 39). Upon receiving the password, control circuit 50 of the label verifies that the password is correct before loading the contents of secondary data location 56 into display 52 (*Goodwin, III*, paragraphs 42-49), which inherently implies that the command from the handheld device to display the contents 56 is authorized by providing the corrected password.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of *Goodwin, III* by instructing the control unit comparing a stored password in the label with a manually sent password.

One of ordinary skill in the art would be motivated to employ the teachings of *Goodwin, III* since they would further enhance the security of information stored in the label by requiring the password to be entered by the handheld device user when information in the registers are accessed. This is preferable over the encryption keys of *Gelbman* since an unauthorized user could use the handheld device in *Gelbman* to send an encrypted command and access the registers in the label since a password may be used to generate an encryption key but is not needed to send the command.

Gelbman does not disclose the receiver is arranged to receive information about a new authorization code to replace an old authorization code, and that the control means is arranged to store the new authorization code in the memory means.

However, *Gelbman* discloses that the handheld device 18 is also configured to transmit software programs and instructions to the storage element 28 of label 16 and the storage element 28 is configured to store encryption software and authorization code in the form of encryption keys, security code in order to authenticate the commands (*Gelbman*, paragraphs

46, 47, 51, 53, 71, 74, 87, 99). The device 18 is further configured to receive an instruction from the main controller or remote devices 70-74 shown in Fig. 7 to perform a function such as changing or updating the display of the label (*Gelbman*, paragraphs 53, 74). The device 18 is part of a distributed processing and control system to provide instructions software programs for use by the label (paragraphs 46, 51, 53, 47, 87) and reports to the central unit of the control system (paragraphs 53, 86). *Gelbman* further discloses a central unit 540 in a retailer location (Fig. 9) is configured to provide all or subset of information to the labels and scanner at the check-out (*Gelbman*, paragraphs 92-94).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the central unit is the main source of information for the labels as well as the central controller for controlling the device 18 and labels 16. It would have further been obvious that the encryption software, programs, and security code in the handheld device 18 come from the central unit since handheld devices are well known to have limited memory capacity and all the software programs stored in the handheld device 18 are developed externally and downloaded from external source. It would have further been obvious that the central unit of the retail establishment provides all software programs for the hand-held device to program the shelf labels in order to further enhance the security of information stored in the labels (i.e. in case the handheld device is lost, broken, or stolen) by directly or indirectly re-programming the labels with new authorization code.

Re claim 11, *Gelbman* does not disclose the central unit is arranged to transmit a new authorization code to the handheld device, which code can be stored in the handheld device and transmitted from the handheld devices to at least one shelf label for authentication of the handheld device.

However, *Gelbman* discloses that the handheld device 18 is also configured to transmit software programs and instructions to the storage element 28 of label 16 and the storage element 28 is configured to store encryption software and authorization code in the form of encryption keys, security code in order to authenticate the commands (*Gelbman*, paragraphs 46, 47, 51, 53, 71, 74, 87, 99). The device 18 is further configured to receive an instruction from the main controller or remote devices 70-74 shown in Fig. 7 to perform a function such as changing or updating the display of the label (*Gelbman*, paragraphs 53, 74). The device 18 is part of a distributed processing and control system to provide instructions software programs for use by the label (paragraphs 46, 51, 53, 47, 87) and reports to the central unit of the control system (paragraphs 53, 86). *Gelbman* further discloses a central unit 540 in a retailer location (Fig. 9) is configured to provide all or subset of information to the labels and scanner at the check-out (*Gelbman*, paragraphs 92-94).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the central unit is the main source of information for the labels as well as the main controller for controlling the device 18 and labels 16. It would have further been obvious that the encryption software, programs, and security code in the handheld device 18 come from the central unit since handheld devices are well known to have limited memory capacity and all the software programs stored in the handheld device 18 are developed externally and downloaded from external source. It would have further been obvious that the central unit of the retail establishment provides all software programs for the hand-held device to program the shelf labels in order to further enhance the security of information stored in the labels (i.e. in case the handheld device is lost, broken, or stolen) by directly or indirectly re-programming the labels with new authorization code.

Re claim 16, *Gelbman* discloses an electronic shelf label comprising

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a plurality of registers (interpreted as records in storage memory 28 of label 16; see Fig. 2) for holding a plurality of different pieces of information (memory 28 is configured to store plurality of different pieces of information including cost, sale price, percent reduction, security code, software; see *Gelbman*, i.e. paragraphs 46, 47, 99, 107), and

a control unit 24 controlling the display of information from the registers in dependence of commands input from a handheld device, said electronic shelf label comprising at least one stored authorization code associated with each register (*Gelbman*, i.e. paragraphs 13, 45-47) and

the control unit 24 is arranged to, when a command to display the information of a specific register is received in the control unit 24, authenticate commands received or executed by the label using an encryption key (*Gelbman*, paragraphs 47, 122).

Gelbman does not disclose the control unit is arranged to compare a received authorization code with a command to the stored authorization code associated with the specific register and display the information contained in the register if the received authorization code matches the stored authorization code.

Goodwin, III discloses a password along with a command is manually sent from a handheld device 34 for displaying the content in a register at a secondary data location 56. The password is received at a shelf label 22 by control circuit 50 which then checks to see if the sent password is correct inherently by comparing the sent password with stored password; if it is correct, the content in the secondary data location 56 is displayed (*Goodwin, III*, paragraphs 26, 27, 37, 42, 44-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of *Goodwin, III* by instructing the control unit comparing a stored password in the label with a manually sent password.

One of ordinary skill in the art would be motivated to employ the teachings of *Goodwin*, *III* since they would further enhance the security of information stored in the label by requiring the password to be entered by the handheld device user when information in the registers are accessed. This is preferable over the encryption keys of *Gelbman* since an unauthorized user could use the handheld device in *Gelbman* to send an encrypted command and access the registers in the label since a password is not needed to send the command.

Re claim 17, an electronic shelf label according to claim 16 further comprising a stored master authorization code, wherein the control unit 24 is arranged to display the information contained in the register if the received authorization code matches the stored master authorization code (*Gelbman*, paragraphs 46, 47, 99, 122, 107, 124, 127, 134, 137: each of the labels receives at least a master encryption key or master security code for use in authentication of commands for accessing all information on the labels).

Re claim 19, *Gelbman* does not disclose the method according to claim 18, further comprising the steps of:

- transmitting from the central unit to at least said first handheld device information about a new authorization code to be used by the handheld device when communicating with at least one electronic shelf label,
- storing said new authorization code in a memory means in the handheld device for inclusion in commands transmitted to said at least one electronic label,
- transmitting from the central unit to at least one electronic shelf label used in said electronic shelf label system information regarding the new authorization code
- storing said new authorization code in a memory means in the electronic shelf label for comparison with an authorization code comprised in a command received from a handheld device.

However, *Gelbman* discloses that the handheld device 18 is also configured to transmit software programs and instructions to the storage element 28 of label 16 and the storage element 28 is configured to store encryption software and authorization code in the form of encryption keys, security code in order to authenticate the commands (*Gelbman*, paragraphs 46, 47, 51, 53, 71, 74, 87, 99). The device 18 is further configured to receive an instruction from the main controller or remote devices 70-74 shown in Fig. 7 to perform a function such as changing or updating the display of the label (*Gelbman*, paragraphs 53, 74). The device 18 is part of a distributed processing and control system to provide instructions software programs for use by the label (paragraphs 46, 51, 53, 47, 87) and reports to the central unit of the control system (paragraphs 53, 86). *Gelbman* further discloses a central unit 540 in a retailer location (Fig. 9) is configured to provide all or subset of information to the labels and scanner at the check-out (*Gelbman*, paragraphs 92-94).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the central unit is the main source of information for the labels as well as the main controller for controlling the device 18 and labels 16. It would have further been obvious that the encryption software, programs, and security code in the handheld device 18 come from the central unit since handheld devices are well known to have limited memory capacity and all the software programs stored in the handheld device 18 are developed externally and downloaded from external source. It would have further been obvious that the central unit of the retail establishment provides all software programs for the hand-held device to program the shelf labels in order to further enhance the security of information stored in the labels (i.e. in case the handheld device is lost, broken, or stolen) by directly or indirectly re-programming the labels with new authorization code.

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14. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Gelbman* (US 20020167500 A1) in view of *Teicher et al.* (US 5880449 A). *Gelbman's* teachings have been discussed above.

Re claim 12, *Gelbman* does not disclose communication means are arranged to receive from the at least one handheld device information regarding a unique identity of the handheld device and communicate this information to the central unit, to enable selection of information to communicate to the handheld device in dependence of said unique identity

Teicher et al. discloses an electronic shelf label system in which the communication means connected to the central unit are arranged to receive from the at least one handheld device information regarding a unique identity (i.e. from register 58) of the handheld device and communicate this information to the central unit, to enable selection of information to communicate to the handheld device in dependence of said unique identity (*Teicher et al.*, col. 4 line 65-col. 5 line 2, col. 5 lines 16-22, col. 6 lines 10-21, col. 8 lines 15-28, col. 9 line 63-col. 10 line 5: the central unit 12 receives identity of handheld device 22 through check-in unit 16 and then selects a subset of record of price reduction list 70 for transmission to the device 22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify *Gelbman* and assign an identity to each handheld device for communicating to the central unit as taught in *Teicher et al.*.

One of ordinary skill in the art would be motivated to employ the teachings of *Teicher et al.* since they would enable the central unit selecting a subset of records, rather than the entire database, to the identified handheld unit that is to communicate with a certain group of shelf labels for performing functions including price verification or updating. Furthermore, by receiving the identity of the specific handheld device that needs information from the central unit, the need to transmit or broadcast information from the central unit to other devices that do

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not need such information is eliminated thereby at least saving energy in the transmission and receiving.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: please see additional prior art listing in the attached PTO-892.

The Examiner has pointed out particular references contained in the prior art of record within the body of this action for the convenience of the applicant. Applicant, in preparing the response, should consider fully the entire references as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THIEN T. MAI whose telephone number is (571)272-8283. The examiner can normally be reached on Monday through Friday, 8:00 - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve S. Paik can be reached on 571-272-2404. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thien T Mai/
Examiner, Art Unit 2887